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General Review of Russian Microbiology

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Soviet microbiological science is in general behind that of the Western World but perhaps not more than one year. It is strictly that they follow the Western World's scientific literature very thoroughly. One could find very good articles (review) for instance, about antibiotics and one could see that they produce their own penicillin. There was a G F Gauze (this is not a Russian name, but perhaps a German) who wrote in 'Microbiology', volume 19, pp 79, 1950, a review, 'The Newest Results in the Antibiotic Studies' where he describes the newest antibiotics - neomycin, chloromycetin, and aureomycin. His references were many foreign authors.

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the systematical classification of actinomycetes composed by Russian scientist Krassilinkov (he has written two books about that) is more proved and correct than that composed by Americans - Vaksman and Henrici.

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6.

"In connection with [] actinomycetes [] interested also in the so-called thermophilic group of these organisms [] there was so little written in the literature about these organisms. In the last weeks [] in a New York catalogue announcement of a Russian book just about 'Thermophilic Microorganisms in Nature and Practice' by E Mishustin. This author has already published material about thermophilic microorganisms and this 390 page book is a review about this group of microorganisms (published in 1950, Moscow). [] do not think that there is described something new, but maybe it shows that Russians will pay more attention upon this little known group of organisms. If Russians could find, for instance, a thermophilic actinomycete that produces a useful antibiotic it would be a large achievement. The advantage of thermophilic organisms in antibiotic production would be as follows: The fermentation time instead of three to five days could be reduced to 16, 20, or 24 hours. In such a short time and at the fermentation at 50° - 60° C level, the risk of infection would be reduced to minimum because at such a high temperature the principal part of contaminants cannot more develop. Just this risk of contamination is one of circumstances that makes the production of antibiotics so expensive.

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Soviet Microbiological Laboratories/Significant Accomplishments of the Soviets/
Publication References to Support Accomplishments

7.

"Due to the lack of available literature [] no data upon locations of Soviet laboratorians working in microbiology nor upon their accomplishments or independent investigations since 1918. But even if this literature were attainable, [] really valuable discoveries will not be published open to the public. [] Russians have more or less valuable discoveries in microbiology that the Western World does not know. In the first place, [] expect such discoveries in all the branches connected with bacterial or biological warfare and in second hand in the different ways of fermentation, decomposition, and utilization of wood pulp, peat and other kinds of cellulose. Russians have enormous supplies of this material.

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8. "Let us mention only the following three names of Russian microbiologists:

- a) J J Metchnikoff - the founder of phagocytes theory.
- b) N Dinogradsky - ecologist, explainer of nitrification process in the soil. After 1918 revolution he left Russia []

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- c) (fnu) Omeljanski - studied the fermentation of pectins and cellulose, nitrogen-fixing phenomenon by microorganisms, etc., which were already world known before 1918 - this shows that Russians are capable of producing world known scientists and explorers.
9. "The present living system as was mentioned above does not allow the Russian scientists to work freely and fearlessly but there is no reason to assume that Russian scientists are not at all capable of inventing something.
10. "In the January 1950 issue of the Russian 'Microbiology' there is published a review, 'The Soviet Microbiology in the Years of Stalin's Five-Year Periods'. In this article there are mentioned about 80 Russian microbiologists after 1918 and the branches where they, together with their coworkers or students, have specialized. In this review investigations that were typically Russian discoveries. One could find statements that are ridiculous, but [] the chief editor in every scientific journal or book is not the scientist but the Communist Party official. They wrote, for instance, that now it is proved that as early as the 19th century the Russian microbiologists V A Manassein and A G Polotebnoy discovered that penicillorum fungi produces an antibiotic that could be useful in human medicine.

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Interpretation of Significance, Methodology and Results Expected from Soviet Microbiologists

11. "It is known that Russian scientists sometimes exaggerate their results. For example, shortly before World War II the Russians published that by means of soil inoculation with azotobacter (sic) cultures they succeeded in fixing nitrogen from the air in the soil. Very intensive investigations after that in Germany and Sweden and in the other countries developed the fact that their results were not truth. On the other hand, it would be wrong to assume that all Russian achievements and investigations are doubtful.
12. [] Russians are behind the Western World in the field of microbiology but even that means much when we know that they follow and have knowledge about the current achievements of the Western World and are capable after about a one year period to reproduce it in their country.

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Conclusions

13. "a) From Russian scientific literature in microbiology one must conclude that they have a clear knowledge about the achievements in Western World and with about a one year period they follow []
- "b) The Russian scientists are not less capable investigators than those of the Western World.
- "c) The Russian laboratories are equipped with modern German microscopes and scientific apparatus (after literature reviews).
- "d) In relation to all that is connected with a possible bacteriological or biological warfare, [] can expect from Russians different surprises not only because the Russian morals admit such things but because the Western World's morals cannot admit, but especially because to the Russians is accessible very extensive experimental material; namely, men in the slave camps. No other country in the world has, nor can have, such experimental material.
- "e) [] cannot judge Russian technical and general science on the basis of their low living standard. Between the current Soviet generation there are many fanatical Communists, which fanaticism is also carried into the field of science. For these people Communism does not mean only a political program but much more. It is their conception of life and their ideology. The Western World does not estimate this circumstance enough.

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